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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER HUYNH, KHOA B				
ART UNIT 2462		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/567,734

Applicant(s)

EVANS, PAUL ANDREW

Examiner

KHOA HUYNH

Art Unit

2462

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 December 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsman's Patent Drawing Review (PTO-940)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This Office Action is in response to the Applicants' amendment received on 12/20/2010.

Claim Status

2. Claims 1-3, 5-6 are amended.
3. Claims 11, 13-15 are cancelled.
4. Claims 1-10, 12 are currently presenting for examination, with claims 1 and 6 being independent.
5. This action has been made **FINAL**.

Response to Arguments

6. Applicants' arguments filed 12/20/2010 have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. **Claims 1-3, 6-10** are rejected under 35 U.S.C. 103(a) as being unpatentable over Datta, US 2003/0031180 in view of Manik, US 2003/0174714 and Vainio, US 2004/0243702.

10. **For claim 1.** Datta teaches: In a local area network comprising a plurality of terminals configured for running client applications and connecting to the Internet (Datta, fig 3, multiple terminals 102 connects to Internet 114) each of said plurality of terminals having the ability to divide a request for information from a content server into a plurality of packets and to distribute the plurality of packets via the local area network (Datta, fig 3, page 19, paragraph 88, controller divides requests from the clients to a server on the Internet over multiple paths; page 12, paragraph 61, controller can be implemented as a software on each of individual nodes), a method of sending data over a communications network (Datta, fig 3, data are sent over the communication network depicted from node 306 to node 330), the method comprising the steps of

(a) generating a request for information from a content server coupled to a wide area network by an originating terminal, said originating terminal coupled by means of a local area network to each of said plurality of terminals; (Datta, page 12, paragraph 68, fig 3, node 306 in LAN 302 generates a request for content from node 330)

(c) dividing the request for information from said content server into a plurality of packets by said originating terminal; (Datta, fig 3, page 19, paragraph 88, controller 308 divides the request into plurality of packets and distribute them to routers 310, 312, 314; even though the controller 308 is illustrated as a separate entity from node 306, according to page 12, paragraph 61, controller 308 can be implemented as a software on node 306);

(d) the originating terminal distributing the plurality of packets between a first plurality of active terminals in the local area network (Datta, fig 3, packets are distributed over plurality of routers 310, 312, 314 in the first local area network 302), each of said first plurality of active terminals (110a, 110b, 110c and 110d) having an associated, direct, wide area network connection to the Internet, said associated, direct, wide area network connection to the Internet of a first one of said first plurality of terminals in the local area network different from an associated, direct, wide area network connection to the Internet of the remainder of said first plurality of terminals in the local area network (Datta, fig 3, each router 310, 312, 314 can have a different direct WAN connection to the Internet, for example router 310 is connected to ISP1 while router 312 is connected to ISP2), the plurality of packets being distributed to said first plurality of terminals over the local area network; (Datta, fig 3, packets are distributed over LAN 302)

(e) each of said first plurality of active terminals transmitting each of said first plurality of packets received during step (d) over its said associated, direct, wide area network connection to the Internet to said reconstitution server coupled to the Internet (Datta, page 5, paragraph 55, fig 3, plurality of routers 310, 312, 314 transmit packets to controller 328 in the second network which is capable of restore/reconstitute the packets) such that the originating terminal shares the bandwidth of the associated, different and direct wide area connections of said first plurality of active terminals; (Datta, page 19, paragraph 88, load balancing is considered for the connections)

and (f) the reconstitution server receiving the plurality of packets via a plurality of said associated, different and direct wide area connections, reconstituting the plurality of packets into said request for information from said content server, and sending the reconstituted plurality of packets to the content server. (Datta, fig 3, controller 328 receives the packets, recombine them and sends them to node 330 over LAN 304, again, each router 324, 326 can also be connected to a different ISP as router 310, 312 therefore have different connections to the Internet)

Even though Datta briefly shows that each terminal can have a different WAN connection to the Internet through different ISP (Datta, fig 3), Datta doesn't distinctly teach that each terminal has a direct WAN connection to the Internet.

Manik from the same or similar fields of endeavor teaches: each terminal has a direct WAN connection to the Internet (Manik, fig 1, CPE 100 provides 104 with direct WAN connection to the Internet through WAN interface 114)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Manik into Datta, since Datta suggests a technique of distributing packets from terminals through the Internet, and Manik suggests the beneficial way of providing such terminals with direct WAN connection to simplify user connectivity between a LAN and WAN and to decrease user effort to install and maintain software providing connectivity (Manik, page 2, paragraph 10) in the analogous art of data communication.

Datta and Manik don't teach: (b) each active terminal periodically sending a first status message to the other of the plurality of terminals in the local area network and to a reconstitution server to indicate that it is active

Vainio from the same or similar fields of endeavor teaches: (b) each active terminal periodically sending a first status message to the other of the plurality of terminals in the local area network and to a reconstitution server to indicate that it is active (Vainio, fig 1, page 2, paragraph 25-29, heartbeat messages are sent to other nodes in the cluster and also to the network management system 160 which is external to the cluster)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Vainio into Datta and Manik, since Datta suggests a technique of distributing packets from terminals through the Internet, and Vainio suggests the beneficial way of using heartbeat to check the status of terminals in such network in order to detect failures and thus increase system efficiency (Vainio, page 1, paragraph 5) in the analogous art of data communication.

11. **For claim 2.** Datta, Manik and Vainio disclose all the limitations of claim 1, and Datta further teaches: comprising the further steps of:

(g) the content server sending content data to the reconstitution server in response to the request received in step (f), (Datta, page 3, paragraph 25, fig 3, node 330 send packets back to controller 328 in response to the request)

the data being sent as a plurality of content data packets (Datta, page 3, paragraph 26, "the responses to these requests also come back through multiple routers"; Datta, page 13, paragraph 78, "Note that there may be multiple responses from the LAN server to a single request, as when a web page references various images that are sent in separate responses");

(h) the reconstitution server distributing the plurality of content data packets to the first plurality of active terminals over the respective wide area connections (Datta, fig 3, controller 328 distributes packets to routers 324, 326 which are subsequently connected to routers 310, 312, 314 through WAN 114);

(i) the first plurality of active terminals sending the plurality of content data packets to the originating terminal (Datta, fig 3, routers 310, 312, 314 send the data packets to node 306);

and (j) the originating terminal receiving the plurality of content data packets to re-create the content data (Datta, page 3, paragraph 27, fig 3, controller 308 receives the data packets and recreate the content data).

12. **For claim 3.** Datta, Manik and Vainio disclose all the limitations of claim 2, and Datta further teaches: wherein in step (d) and/or step (h), the plurality of packets are distributed to the first plurality of active terminals in a round-robin basis (Datta, page 19, paragraph 84, packets are distributed to plurality of routers 110 using round-robin approach).

13. **For claim 6.** Datta teaches: A communications network comprising: a plurality of terminals for running client applications and connecting to the Internet (Datta, fig 3, multiple terminals 102 connects to Internet 114), each of the plurality of terminals being connected to one another by a local area network (Datta, fig 3, multiple terminals connected through LAN 302), and at least some of said terminals having an associated, different and direct wide area connection to the Internet (Datta, fig 3, each router 310, 312, 314 can have a different direct WAN connection to the Internet, for example router 310 is connected to ISP1 while router 312 is connected to ISP2), said plurality of terminals each having the ability to divide a request into a plurality of packets and distribute the plurality of packets to other ones of said plurality of terminals via the local area network; (Datta, fig 3, page 19, paragraph 88, controller divides requests from the clients to a server on the Internet over multiple paths; page 12, paragraph 61, controller can be implemented as a software on each of individual nodes

a reconstitution server, coupled to the Internet and a plurality of content servers (Datta, fig 3, second network, which is part of the Internet that the first network connects to comprises controller 328 which is capable of restore/reconstitute packets and plurality

of nodes 102 which are capable of serving content), wherein an originating terminal in the local area network generates a request for one of the content servers (Datta, page 12, paragraph 68, fig 3, node 306 generates a request for content from node 330),

divides the request into a plurality of packets and distributes the plurality of packets between a plurality of active terminals via the local area network; (Datta, fig 3, page 19, paragraph 88, controller 308 divides the request into plurality of packets and distribute them to routers 310, 312, 314; even though the controller 308 is illustrated as a separate entity from node 306, according to page 12, paragraph 61, controller 308 can be implemented as a software on node 306)

wherein each of said plurality of active terminals sends packets received to the reconstitution server via each said at least some terminal's separate associated and direct wide area connections (Datta, page 5, paragraph 55, fig 3, plurality of routers 310, 312, 314 transmit packets to controller 328 in the second network which is capable of restore/reconstitute the packets) such that the originating terminal shares the bandwidth of the separate, associated and direct wide area connections of said at least some of said active terminals and wherein the reconstitution server sends the plurality of packets to the content server. (Datta, page 5, paragraph 55, fig 3, plurality of routers 310, 312, 314 transmit packets to controller 328 in the second network which is capable of restore/reconstitute the packets)

Even though Datta briefly shows that each terminal can have a different WAN connection to the Internet through different ISP (Datta, fig 3), Datta doesn't distinctly teach that each terminal has a direct WAN connection to the Internet

Manik from the same or similar fields of endeavor teaches: each terminal has a direct WAN connection to the Internet (Manik, fig 1, CPE 100 provides 104 with direct WAN connection to the Internet through WAN interface 114)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Manik into Datta, since Datta suggests a technique of distributing packets from terminals through the Internet, and Manik suggests the beneficial way of providing such terminals with direct WAN connection to simplify user connectivity between a LAN and WAN and to decrease user effort to install and maintain software providing connectivity (Manik, page 2, paragraph 10) in the analogous art of data communication.

Datta and Manik don't teach: wherein, in use, each active terminal periodically sends a first status message to the other of the plurality of terminals in the local area network and to said reconstitution server to indicate that it is active;

Vainio from the same or similar fields of endeavor teaches: wherein, in use, each active terminal periodically sends a first status message to the other of the plurality of terminals in the local area network and to said reconstitution server to indicate that it is active; (Vainio, fig 1, page 2, paragraph 25-29, heartbeat messages are sent to other nodes in the cluster and also to the network management system 160 which is external to the cluster)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Vainio into Datta and Manik, since Datta suggests a technique of distributing packets from terminals through the Internet,

and Vainio suggests the beneficial way of using heartbeat to check the status of terminals in such network in order to detect failures and thus increase system efficiency (Vainio, page 1, paragraph 5) in the analogous art of data communication.

14. **For claim 7.** Datta, Manik and Vainio disclose all the limitations of claim 6, and Datta further teaches: wherein, in use, the content server sends content data to the reconstitution server in the form of a plurality of content data packets (Datta, page 3, paragraph 25, fig 3, node 330 send content data packets back to controller 328 in response to the request),

the reconstitution server distributes the plurality of content data packets between the plurality of terminals over the respective associated, different and direct wide area connections (Datta, fig 3, controller 328 distributes packets to routers 324, 326 which are subsequently connected to routers 310, 312, 314 through WAN 114),

the plurality of terminals route the plurality of content data packets to the originating terminal (Datta, fig 3, routers 310, 312, 314 send the data packets to node 306);

and the originating terminal receives the plurality of content data packets and recreates the content data (Datta, page 3, paragraph 27, fig 3, controller 308 receives the data packets and recreate the content data).

15. **For claim 8.** Datta, Manik and Vainio disclose all the limitations of claim 6, and Datta further teaches: wherein one or more of said plurality of terminals has more than

one respective wide area connection. (Datta, page 4, paragraph 40, controller which can be one of the terminals has multiple interfaces for multiple WAN connections)

16. **For claim 9.** Datta, Manik and Vainio disclose all the limitations of claim 6, and Datta further teaches: wherein the local area network comprises one or more terminals, further to said plurality of terminals, not having a wide area connection. (Datta, page 2, paragraph 13-14, unnecessary access to the WAN 114 are reduced since WAN bandwidth is limited, therefore one or more terminals could be not allow to connect to WAN)

17. **For claim 10.** Datta, Manik and Vainio disclose all the limitations of claim 6, and Datta further teaches: wherein each of the active terminals in the local area network comprises a list identifying the other active terminals (Datta, page 5, paragraph 60, fig 4, controller 202 contains router identifiers 402, 404 which is a list that identifies other active terminals)..

18. **Claims 4, 5** are rejected under 35 U.S.C. 103(a) as being unpatentable over Datta, US 2003/0031180 in view of in view of Manik, US 2003/0174714 and Vainio, US 2004/0243702 and further in view of Gray, US 6,178,448.

19. **For claim 4.** Datta, Manik and Vainio disclose all the limitations of claim 3, however Datta, Manik and Vainio fail to teach: wherein the round robin distribution of the plurality of packets is weighted.

Gray from the same or similar fields of endeavor teaches: wherein the round robin distribution of the plurality of packets is weighted (Gray, column 3, lines 39-42, "This distribution of packets among the concurrent links is presently accomplished in a number of ways, including round-robin, weighted round-robin and link metered pacing approaches")

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Gray into Datta, Manik and Vainio, since Datta suggests a technique of distributing packets, and Gray suggests the beneficial way of including weighted round-robin distribution in such technique since weighted round-robin is a well-known distribution technique and according to Datta any suitable load balancing or load sharing algorithm can be used with his invention (Datta, page 12, paragraph 14) in the analogous art of data communication.

20. **For claim 5.** Datta, Manik, Vanio and Gray disclose all the limitations of claim 4, however Datta fails to teach: whereon the round robin weighting is determined in accordance with the bandwidth of the respective wide area connection between the terminal and the Internet.

Gray from the same or similar fields of endeavor teaches: whereon the round-robin weighting is determined in accordance with the bandwidth of the connection between the terminal and the second network (Gray, column 4, lines 20-22, "The weight values typically are based on link speeds and provide a simple way to load balance the flow over the sublinks"; link speeds is bandwidth)

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Gray into Datta, Manik and Vainio, since Datta suggests a technique of distributing packets, and Gray suggests the beneficial way of including weighted round-robin distribution based on bandwidth in such technique since weighted round-robin based on bandwidth is a well-known distribution technique and according to Datta any suitable load balancing or load sharing algorithm can be used with his invention (Datta, page 12, paragraph 14) in the analogous art of data communication.

21. **Claim 12** is rejected under 35 U.S.C. 103(a) as being unpatentable over Datta, US 2003/0031180 in view of Manik, US 2003/0174714 and Vainio, US 2004/0243702 and further in view of Zhao, US 2004/0224694.

22. **For claim 12.** Datta, Manik and Vainio disclose all the limitations of claim 10, however Datta, Manik and Vainio fail to teach: wherein an active terminal sends a second status message to the other terminals in the local area network prior to becoming inactive.

Zhao from the same or similar fields of endeavor teaches: wherein an active terminal sends a second status message to the other terminals in the local area network prior to becoming inactive. (Zhao, page 4, paragraph 56, "When the wireless data device 10 powers down, it notifies its data inactive status by sending a Data Inactive Messages 66A and 66B to push servers 52 and 54 respectively")

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Zhao into Datta, Manik and Vainio, since Datta suggests a technique of distributing packets, and Zhao suggests the beneficial way of including data inactive messages in such technique so other terminals in the network can know if about inactive terminals and avoid unnecessary transmission, therefore improve network efficiency (Zhao, page 3, paragraph 41) in the analogous art of data communication.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KHOA HUYNH whose telephone number is (571) 270-7185. The examiner can normally be reached on Monday - Friday: 10:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SEEMA RAO can be reached on (571) 272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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